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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,496	10/24/2003	Jessie Hu	MR3029-75	7232

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ROSENBERG, KLEIN & LEE
3458 ELLICOTT CENTER DRIVE-SUITE 101
ELLICOTT CITY, MD 21043

EXAMINER	
CHU, RANDOLPH I	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/691,496	HU, JESSIE	
	Examiner	Art Unit	
	Randolph Chu	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10/24/2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7, 9-16 and 18* is/are rejected.

7)☒ Claim(s) *8 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/24/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. In pages 4 and 9, the equation is not clear whether $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m * m}$ or $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m} * m$. The examiner will read this as $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m * m}$.

2. In pages 5 and 10, the equation is not clear whether $\frac{\left(\sum|x_i - x_{avg}|\right)}{n * x_{avg}}$ or $\frac{\left(\sum|x_i - x_{avg}|\right)}{n} * x_{avg}$. The examiner will read this as $\frac{\left(\sum|x_i - x_{avg}|\right)}{n * x_{avg}}$.

Claim Objections

3. Regarding claims 1 and 10 that statements with a term suggesting or making optional (e.g. "can be") have been given a little patentable weight, because the statements do not **positively** recite structural limitations.

4. Regarding claim 3 and 12, the equation is not clear whether $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m * m}$ or $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m} * m$. The examiner will read this as $\frac{\left(\sqrt{\left(\sum(a_i - b_i)^2\right)}\right)}{m * m}$.

5. Regarding claim 8 and 17, the equation is not clear whether $\frac{\left(\sum|x_i - x_{avg}|\right)}{n * x_{avg}}$ or $\frac{\left(\sum|x_i - x_{avg}|\right)}{n} * x_{avg}$. The examiner will read this as $\frac{\left(\sum|x_i - x_{avg}|\right)}{n * x_{avg}}$.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1 -18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 10 recite the limitation " the interference" (claim 1, lines 18-19; claim 10 lines 21-22). There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Wakabayashi et al. (US 2004/0047419).

In regard claim 1, Wakabayashi et al. teach, (a) dividing an incoming image into a plurality of blocks (para. [0062], [0063]); (b) comparing said plurality of blocks to corresponding blocks of a referred image and saving compared results into a declared data structure (fig 6. ref label S46); (c) marking a compared result that exceeds a first predetermined threshold, whereby a changed block corresponding to said compared result can be indicated (fig 6. ref label S47); (d) grouping said compared result into an adjacent region thereof, whereby changed blocks can be regionally grouped together (Fig. 10 and 11); and (e) calculating a deviation value of said region and comparing said deviation value to a second predetermined threshold, whereby motion can be detected and the noise caused from moire and the interference resulted from an area brightness variation also can be filtered out (para. [0089]) (Fig. 10 and 11, para [0118]-[0126]).

With regard claim 10, please refer to rejection for claim 1.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2 and 11 are rejected under 35 USC 103(a) as being unpatentable over Wakabayashi et al. (US 2004/0047419) in view of Ozaki (US 6,393,153).

Wakabayashi et al. teaches all the limitations of claim 1 as applied above from which claim 2 respectively depend.

Wakabayashi et al. does not teach expressly that plurality of blocks is 1% ~ 4% of said incoming image.

Ozaki teaches that size of block of image is 8 x 8 or 16x16 (Fig.5, co. 5 lines 19-34).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use block that size is 1% ~ 4% in the method of Wakabayashi et al.

The suggestion/motivation for doing so would have been that to balance a conflict between locality and efficiency of calculation. Further, there is no disclosed criticality of the range of 1% ~ 4% or opposed to any other value.

Therefore, it would have been obvious to combine Ozaki with Wakabayashi et al. to obtain the invention as specified in claim 2.

12. Claims 3-6 and 12-15 are rejected under 35 USC 103(a) as being unpatentable over Wakabayashi et al. (US 2004/0047419) in view of Shiiyama (US 7,075,683).

Wakabayashi et al. teaches all the limitations of claim 1 as applied above from which claims 3 and 6 respectively depend.

With regard claim 3, Wakabayashi et al. does not teach expressly that the comparing step as follows: $\frac{\left(\sqrt{\left(\sum (a_i - b_i)^2\right)}\right)}{m * m}$ where i=0 to m*m, m represents a side of said plurality of blocks, and a_i and b_i respectively represent a pixel value of a corresponding block of said incoming image and said referred image.

Shiiyama teaches detection using average of sum of square of the difference (col. 13 lines 3-10).

With regard claim 6, Wakabayashi et al. does not teach expressly that first predetermined threshold is 1.

Shiiyama teaches fixed threshold (col. 13 lines 3-10).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use average of sum of square of the difference and threshold in the method of Wakabayashi et al.

The suggestion/motivation for doing so would have been that It attempts to minimize the sum of the squares of the ordinate differences (called residuals) between points and threshold is set to 1 because the number of measured data is 1 and the gradient descent method is used to minimize the squared residual.

Therefore, it would have been obvious to combine Shiiyama with Wakabayashi et al. to obtain the invention as specified in claims 3 and 6.

13. With regard claim 4, Wakabayashi et al. teaches referred image is a prior image to said incoming image (para. [0118]).

14. with regard claim 5, Wakabayashi et al. teaches referred image is a later image to said incoming image (para. [0118]).

15. Claims 7 and 16 are rejected under 35 USC 103(a) as being unpatentable over Wakabayashi et al. (US 2004/0047419) in view of Liu et al. (US 2004/0233197).

Wakabayashi et al. teaches all the limitations of claim 1 as applied above from which claim 7 respectively depend.

Wakabayashi et al. does not teach expressly that group is employed by a double linked list.

Liu et al. teaches that that group is employed by a double linked list. (para [0055]). At the time of the invention it would have been obvious to a person of ordinary skill in the art to employ a double linked list to group in the method of Wakabayashi et al.

The suggestion/motivation for doing so would have been that double linked list is easy to manipulate because they allow sequential access to the list in both direction.

Therefore, it would have been obvious to combine Ozaki with Wakabayashi et al. to obtain the invention as specified in claim 7.

16. Claims 9 and 18 are rejected under 35 USC 103(a) as being unpatentable over Wakabayashi et al. (US 2004/0047419)

With respect claim 9, Wakabayashi et al. discloses all the limitations of claim 1 as applied above from which claim 4 respectively depend.

Wakabayashi et al. does not disclose expressly that second predetermined threshold is 0.35

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use predetermined threshold value.

Applicant has not disclosed the second threshold value of 0.35 provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with other threshold value because threshold can be optimized depend on environment or situation .

Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify Wakabayashi et al. to obtain the invention as specified in claim 9.

With regard claim 11, please refer to rejection for claim 2.

With regard claim 12, please refer to rejection for claim 3.

With regard claim 13, please refer to rejection for claim 4.

With regard claim 14, please refer to rejection for claim 5.

With regard claim 15, please refer to rejection for claim 6.

With regard claim 16, please refer to rejection for claim 7.

With regard claim 18, please refer to rejection for claim 9.

Allowable Subject Matter

Claims 8 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Randolph Chu whose telephone number is 571-270-1145. The examiner can normally be reached on Monday to Thursday from 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on 571-272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RIC/

JOSEPH MANCUSO
SUPERVISORY PATENT EXAMINER